

a housing, an air/brine heat exchanger, a brine/refrigerant heat exchanger, brine inlet means for applying brine onto at least one said heat exchangers, a brine reservoir and means for circulating said brine from the reservoir to said inlet means;

said brine/refrigerant heat exchangers of said units being in closed loop fluid communication with each other and having compressor means for circulating a refrigerant therethrough in selected directions.

30. A heat pump system, comprising:

two units in fluid communication with each other, each unit including:

a housing, brine inlet means at the top portion thereof, a first heat exchanger located adjacent said brine inlet means, a brine reservoir at the lower part of said housing, and means for introducing air into brine-dripping space delimited between said first heat exchanger and said reservoir, and

a second heat exchanger in liquid communication with said brine inlet means and said reservoir;

said second heat exchangers being enclosed loop fluid communication with each other and having compressor means

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for circulating a refrigerant therethrough in selected directions, and

means for circulating brine between said reservoir and said second heat exchanger of each unit.

31. The heat pump system as claimed in claim 29, wherein the reservoirs of each unit are in liquid communication with each other.

32. The heat pump system as claimed in claim 31, further comprising means for circulating brine between said reservoirs.

33. The heat pump system as claimed in claim 31, further comprising a third heat exchanger affixed on brine circulating pipes, interconnecting said reservoirs.

34. The heat pump system as claimed in claim 32, wherein said means for circulating the brine between said reservoirs are adapted to circulate brine at a lower rate than the rate of circulation of the brine between said two reservoirs and said brine inlet means.

35. The heat pump system as claimed in claim 32, wherein said means for circulating the brine between said reservoirs are adapted to circulate brine at a lower rate than the rate of circulation of the brine between said two reservoirs and said second heat exchanger of each unit.

36. The heat pump system as claimed in claim 29, wherein at least said unit and said second and third heat exchangers are made of materials non-corrosive to brine.

37. The heat pump system as claimed in claim 29, further comprising a throttle valve affixed on a refrigerant-carrying pipe interconnecting said second heat exchangers.

38. The heat pump system as claimed in claim 29, wherein at least one of said reservoirs is further provided with water inlet means for adding water to the brine.

39. The heat pump system as claimed in claim 29, further comprising ambient air heating means for heating the ambient air prior to the introduction thereof into said housing.

10059826-013002

40. The heat pump system as claimed in claim 39,
wherein said heating means is a water/air heat exchanger.

41. The heat pump system as claimed in claim 29,
further comprising an external humidity source for adding
humidity to ambient air introducible into said housing.

42. The heat pump system as claimed in claim 41,
wherein said humidity source is a plant.

43. A method for air conditioning, comprising:
providing a heat pump system as claimed in claim 29
and further including a refrigerant evaporator and a
refrigerant condenser, wherein the refrigerant evaporator
and the refrigerant condenser exchange heat with brine
solution, whereby the temperature of condensation of said
refrigerant is reduced while the temperature of said
evaporator is raised, thereby increasing the efficiency of
the system.

44. The method as claimed in claim 43, wherein said
first heat exchanger is thermally associated with said
refrigerant evaporator.

45. The method as claimed in claim 43, wherein said first heat exchanger is thermally associated with said refrigerant condenser.

46. The method as claimed in claim 43, wherein said means for circulating the brine between said reservoirs is adapted to circulate brine at a lower rate than the rate of circulation of the brine between said two reservoirs and said brine inlet means.

47. The method as claimed in claim 43, wherein said means for circulating the brine between said reservoirs is adapted to circulate brine at a lower rate than the rate of circulation of the brine between said two reservoirs and said second heat exchanger of each unit.

48. A dehumidifier system comprising:

a dehumidifying chamber into which moist air is introduced and from which less moist air is removed after dehumidification;

a desiccant solution situated in at least one reservoir;

a first conduit via which desiccant solution is transferred from the at least one reservoir to the

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dehumidifying chamber, said solution being returned to said at least one reservoir after absorbing moisture from the moist air;

a regenerator which receives desiccant solution from said at least one reservoir and removes moisture from it;

a second conduit via which desiccant is transferred from the at least one reservoir to the regenerator, said solution being returned to said at least one reservoir after moisture is removed from it; and

a heat pump that transfers heat from the solution in the first conduit to the solution in the second conduit.

49. A dehumidifier system comprising:

a dehumidifying chamber into which moist air is introduced and from which less moist air is removed after dehumidification;

a desiccant solution situated in a first reservoir;

a first conduit via which desiccant solution is transferred from the first reservoir to the dehumidifying chamber, said solution being returned to said at least one reservoir after absorbing moisture from the moist air;

a desiccant solution situated in a second reservoir;

a regenerator which receives desiccant solution from the second reservoir and removes moisture from it;

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